

the Office Actions Summary, claims 1-10 are pending and under consideration while claims 11-20 have been withdrawn from consideration. The Office Action has objected to the drawings and rejected the pending claims 1-5 and 10 under 35 USC 102(b) and 102(e) as well as under 35 USC 103(a). Dependent claims 6-9 are indicated as being directed to allowable subject matter. Applicants wish to thank the Examiner for the prompt consideration and allowance of claims 6-9.

By this amendment claims 11-20 have been cancelled and claim 1 has been amended. Applicants respectfully traverse the rejections and request reconsideration of the pending claims, as amended, in light of the following remarks.

#### **Objection to the Drawings**

The Office Action of November 8, 2007 has objected to the drawings as Replacement Figure 1 does not include certain reference letters. Applicants submit herewith Replacement Drawings in compliance with 37 CFR 1.21(d) to render the objection moot. Withdrawal of this objection is respectfully requested.

#### **Rejection under 35 USC 102(b) of Claims 1-4, and 10**

The Office Action of November 8, 2007 has rejected pending claims 1-4 and 10 under 35 USC §102(b) as being anticipated by United States Patent No. 6073830 to Hunt et al. (hereafter Hunt). This rejection is respectfully traversed.

It is well established that for anticipation under 35 USC 102(b), the cited reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. In the present application, independent claim 1 specifically recites:

“A method for forming a solder bonded sputter target/backing plate assembly comprising the steps of: a) forming a continuous solid backing plate with a bonding surface having at least two spaced-apart peripheral flanged segments disposed on the bonding surface of the backing plate; b) forming a sputter target having *a sputter surface and*

*a bonding surface and at least two peripheral notched segments on the bonding surface*, and said peripheral notched segments *adapted for aligning with the peripheral flange segments*; c) applying a solder material to an interface spacing defined by superimposing *and aligning* said bonding surface of the sputter target on the bonding surface of the backing plate and said peripheral flange segments having a height thickness larger than the depth thickness of the peripheral notched segments; and d) allowing said solder material to solidify and bond the sputter target to the backing plate.” (*Emphasis Added*).

In comparison, the cited reference (Hunt) does not disclose “...a sputter surface and a bonding surface and at least two *peripheral notched segments on the bonding surface* and said peripheral notched segments *adapted for aligning with the peripheral flange segments*...” nor the limitation of “...applying a solder material to an interface spacing defined by superimposing *and aligning* said bonding surface of the sputter target on the bonding surface of the backing plate ...”.

The Office Action suggests that the two peripheral notched segments (12’) on the bonding surface are taught in Hunt in Figures 6A thru 7B. However, a closer reading of the Hunt reference reveals that element 12’ in Hunt is a roughened bonding surface that is generally applied uniformly across the entire bonding surface via particle blasting, shot peening, etching process, etc. (See Column 6, lines 48-55) and is NOT a peripheral notched segment as required by the present claims. Even if such roughened surface were considered a notched segment, which it is not, the Hunt reference still fails to disclose or teach the use of such notched segment as an aligning feature of the target/backing assembly, as set forth in independent claim 1. For these reasons, the rejection under 35 USC 102(b) of claim 1 and any claim depending therefrom is inappropriate.

In view of the above stated differences, Applicants maintain that the rejections under 35 USC 102(b) must be withdrawn unless the Examiner can

show that the Hunt, reference discloses: (1) - *a target with ... at least two peripheral notched segments on the bonding surface* -;(2) - *the peripheral notched segments adapted for aligning with the peripheral flange segments* -; and (3) - *an interface spacing defined by superimposing and aligning said bonding surface of the sputter target on the bonding surface of the backing plate* - .

### **Rejection under 35 USC 102(e) of Claims 1-3, and 10**

The Office Action of November 8, 2007 has also rejected claims 1-3 and 10 under 35 USC § 102(e) as being anticipated by United States Patent No. 6599405 to Hunt et al. (hereafter Hunt II). This rejection is also respectfully traversed.

For anticipation under 35 USC 102(e), the cited reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present.

As indicated above, independent claim 1 includes a limitation “...sputter target having ... at least two *peripheral notched segments on the bonding surface*, and said peripheral notched segments *adapted for aligning with the peripheral flange segments...*”. In addition, claim 1 also includes the limitation of “...applying a solder material to an interface spacing defined by superimposing *and aligning* said bonding surface of the sputter target on the bonding surface of the backing plate ...” which is not disclosed in the Hunt II reference.

The Hunt II reference teaches the use of a conical or frusta-conical bonding surface (12) (See Column 2, lines 27-38) and is NOT a peripheral notched segment as required by the present claims. Even if such conical or frusta-conical surface were considered a notched segment, which it is not, the Hunt II reference still fails to disclose or teach the use of such notched segment as an aligning feature with the flange segments of the backing plate, as set forth in independent claim 1. In view of the above stated differences, Applicants maintain that the rejections under 35 USC 102(e) are also inappropriate and must be withdrawn.

### **Rejection under 35 USC 103(a) of Claim 5**

The Office Action has rejected pending claim 5 under 35 USC §103(a) as being unpatentable over Hunt. This rejection is respectfully traversed.

It is well established that any rejection that is based on obviousness under 35 USC 103(a) requires application of the key factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459 (1966). Two very important factual inquiries, set forth in *Graham v. John Deere Co.* include: (1) determining scope and content of the prior art; and (2) ascertaining the differences between the prior art and the claims at issue. In the present matter, the Office Action has failed to properly satisfy these criteria and thus, have failed to establish a prima facie case of obviousness. Specifically, the Office Action has apparently mischaracterized the teachings of the Hunt reference and has failed to appreciate the differences between the Hunt reference and dependent claim 5. Claim 5 is a dependent claim depending from base independent claim 1. As indicated above, the Hunt reference does not teach an important limitation of independent claim 1, namely “...a sputter target having ...at least two ***peripheral notched segments on the bonding surface...***”; and “...said peripheral notched segments ***adapted for aligning with the peripheral flange segments...***”.

These differences, together with other differences, are not appreciated or recognized in the current Office Action. In short, the Office Action has not properly determined the scope of the Hunt reference and has failed to ascertain all the differences between the prior art and the claim at issue. Thus, a prima facie case of obviousness has not been established and the rejection under 35 USC 103(a) should be withdrawn.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

Except for the fee associated with the petition for a one-month extension of time, which is hereby requested, it is believed there are no other claim fees associated with this Amendment. However, if there should be any fee deficiencies associated with this Amendment, the Commissioner of the U.S.

Patent and Trademark Office is authorized to charge such fee deficiency to Deposit Account No. 16-2440.

Finally, if the Examiner has any questions or concerns regarding this Amendment, he/she is invited to contact the undersigned at his/her earliest convenience.

Respectfully submitted,

**/Robert J. Hampsch/**  
Robert J. Hampsch, Reg. No. 36,155  
Attorney for Applicants

Praxair, Inc.  
39 Old Ridgebury Road  
Danbury, Connecticut 06810  
Tel. (203) 837-2178  
Fax (203) 837-2515  
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